Amendments to the Specification

Please replace para. [0009] with the following:

In accordance with another embodiment, the multi-phase acceleration procedure may be used as the read/write head exits the landing zone and enters one or more data regions on the disc as the disc is rotating at a rotational velocity that is less than the final rotational velocity (V_F) As such, the read/write head may exit the landing zone as the disc reaches a desired early exit velocity (V_D). ~~Although the desired early exit velocity (V_D) is a velocity sufficient to create the air bearing between the slider and the surface of the disc as the head is situated in close proximity to the inner diameter, the desired early exit velocity (V_D) may be insufficient to maintain the air bearing as the head traverses toward the outer diameter.~~ Thus, the multi-phase acceleration procedure may accelerate the disc at one or more acceleration rates after the head has exited the landing zone in order to maintain the air bearing as the head is moved across the disc toward the outer diameter.

Please replace para. [0041] with the following:

In accordance with an alternative embodiment, which may be referred to as an "early exit technique," the read/write head 118 may exit the landing zone 120 at a time prior to the rotational velocity of the disc 108 reaching final rotational velocity (V_F). In disc drives 100 implementing the early exit technique, the servo control system 150 moves the read/write head 118 from the landing zone 120 to a data region on the disc 108 at a desired early exit velocity (V_D). The desired early exit velocity (V_D) may preferably be a velocity sufficient to create an air bearing between the slider of the head 118 and the surface of the disc 108 as the head 118 is in close proximity to the ID 136. ~~However, the~~

~~desired early exit velocity (V$_D$) is typically insufficient to maintain the air bearing between the slider and the surface of the disc 108 as the head 118 moves toward the OD 138 due to an increasing large circumference that the head 118 must track as it moves toward the OD 138. Hence, the acceleration of the rotational velocity must be such that the rotational velocity of the disc 108 increases at a rate sufficient to maintain the air bearing as the head 118 moves toward the OD 138 from an early exit time (V$_D$) to the final time (V$_F$) corresponding to the time (T$_F$) that the disc 108 reaches final rotational velocity (V$_F$).~~

Please replace paras. [0042-0043] with the following:

As an example, and not a means of limitation, the final rotational velocity (V$_F$) may be defined as 7200 revolutions/second. Hence, taking the change in velocity (ΔV), which is defined as V$_i$ subtracted from V$_F$, over the change in time (ΔT), which is 4 seconds, the acceleration applied to the disc 108 is defined at 1800 revolutions/second^2. As such, if the disc 108 is rotated at an acceleration of 1800 revolutions/second, after 4 seconds the disc 108 rotates at 7200 revolutions/second and the servo control system 150 moves the head 118 from the landing zone 120 to a data region 304 as an air bearing is already defined between the surface of the disc 108 and the slider due to the rotational velocity of the disc 108. Contrarily, if ~~If~~ the disc drive 100 utilizes the early exit technique, the disc drive 100 is preferably designed such that rotation of the disc 108 is increased at a greater acceleration as compared to a disc drive 100 not implementing the early exit technique. ~~For instance, if the servo control system 150 moves the head 118 from the landing zone 120 to a data region 304 at a time corresponding to 3000~~

revolutions/second, the head 118 may reach the OD 138 prior to 4 seconds. As such, disc

drive designers must increase the rate of acceleration to ensure that the rotational velocity

maintains the air bearing as the head 118 sweeps across the disc towards the OD 138. As

an example, and not a means of limitation, the projected time that the head 118 reaches

the OD 138 may be 3 seconds. If the rotational velocity needed to maintain the air

bearing as the head 118 is in close proximity to the OD 138 is 7200 revolutions/second,

then the constant acceleration applied to the disc 108 is preferably 2400

revolutions/second.

Please replace para. [0056] with the following:

In accordance with an alternative embodiment implementing the "early exit

technique," the read/write head 118 may exit the landing zone 120 at a time prior to the

rotational velocity of the disc 108 reaching the final velocity (V_F). In disc drives 100

implementing the early exit technique the servo control system 150 moves the read/write

head 118 from the landing zone 120 to a data region 304 on the disc 108 at a desired

early exit velocity (V_D). Because the early exit velocity (V_D) occurs at a predetermined

time (T_D) following a predetermined number of acceleration rates, movement of the head

118 from the landing 120 to a data region 304 between the ID 136 and the OD 138 may

be triggered based on a velocity parameter (V_D) or a timing parameter (T_D), which may

be referred to as an early exit time. The early exit velocity (V_D) may preferably be a

velocity sufficient to create an air bearing between the slider on the read/write head 118

and the surface of the disc 108 as the head 118 is located in close proximity to the ID

136. However, because the early exit velocity (V_D) is typically insufficient to maintain

the air bearing between the slider and the surface of the disc 108 as the head 118 moves
toward the OD 138, the acceleration rates applied to the rotating disc 108 must be such
that the rotational velocity increases at a rate sufficient to maintain the air bearing as the
head 118 moves toward the OD 138 from the early exit time (T_D) to the final time (T_F)
corresponding to the time that the disc 108 reaches final rotational velocity (V_F).

Please replace para. [0061] with the following:

FIG. 8 illustrates operations associated with a multi-phase acceleration procedure
800 for rotating a disc 108 from an initial rotational velocity (V_i) to a threshold velocity
(V_{TH}). Specifically, the multi-phase acceleration procedure 800 applies multiple
acceleration steps, rates or phases to a disc 108 to initiate rotation by the disc 108 at an
initial time (T_i) and set the rotational velocity of the disc 108 at a predetermined threshold
rotational velocity (V_{TH}) from an initial rotational velocity of zero revolutions/second in
accordance with an embodiment of the present invention. The multi-phase acceleration
procedure 800 preferably accelerates the disc 108 at multiple acceleration rates such that
the threshold rotational velocity (V_{TH}) is realized at a predetermined threshold time (T_{TH}).
In accordance with an embodiment, the threshold velocity (V_{TH}) is a velocity sufficient to
create an air bearing between a read/write head 118 and a surface of the disc 108 as the
head 118 exits a landing zone 120 and enters a data region 304 on the surface of the disc
108. As such, the threshold velocity (V_{TH}) may be a final velocity (V_F) in accordance
with one embodiment of the present invention or a desired early exit velocity (V_D) in
accordance with an alternative embodiment of the present invention. As shown in more
detail in FIG. 9, if the threshold velocity (V_{TH}) is a final velocity (V_F), the threshold

velocity (V_{TH}) is a velocity sufficient to create and maintain the air bearing as the head 118 radially traverses across the disc 108 toward the outer diameter 138. ~~In contrast, if the threshold velocity (V_{TH}) is a desired early exit velocity (V_D), the threshold velocity (V_{TH}) is typically a velocity sufficient only to create, but not maintain, the air bearing as the head 118 radially traverses across the disc 108 toward the outer diameter 138.~~ Thus, the multi-phase acceleration procedure shown and illustrated in FIG. 10 describes continuing acceleration of the disc 108 past the threshold velocity (V_{TH}) ~~in order to guarantee that air bearing is maintained as the head 118 continues toward the outer diameter 138~~ to obtain V_F.

Please replace para. [0064] with the following:

If the velocity determine operation 810 determines that the current rotational velocity is the desired final rotational velocity (V_F), operation flow passes to a head exit operation 812. The head exit operation 812 moves the read/write head 118 from a landing zone 120 to a data region 304 on the surface of the disc 108 such that the head 118 may access, i.e., write to or read from, tracks 306 on the disc 108. As described above and in more detail below, the head 118 may exit the landing zone 120 at either a final velocity (V_F) or a desired early exit velocity (V_D). As such, the tracks 306 on the disc 108 accessible by the head 118 depend on whether the head 118 exits the landing zone 120 at a final rotational velocity (V_F) or an early exit velocity (V_D). ~~If the head 118 exits at a final velocity (V_F) then all tracks 306 on the disc 108 are accessible to the head 118. In contrast, less than all tracks 306 on the disc are accessible to the head 118 if the head exits at an early exit velocity (V_D).~~

Please replace para. [0076] with the following:

The velocity query operation 1015 determines whether the rotational velocity of

the disc 108 has reached the desired early exit velocity (V_D). If the velocity query

operation 1015 determines that the early exit velocity (V_D) has been reached, operation

flow passes to an early exit operation 1017. The early exit operation 1017 moves the

read/write head 118 from a landing zone 120 to a data region 304 on the surface of the

disc 108 such that the head 118 may access, i.e. write to or read from, tracks 306 on the

disc 108. ~~Although the desired early exit velocity (V_D) may preferably be a velocity~~

~~sufficient to create and maintain an air bearing between the slider of the head 118 and the~~

~~surface of the disc 108 as the head 118 is in close proximity to the ID 136, the desired~~

~~early exit velocity (V_D) is typically a velocity insufficient to maintain the air bearing~~

~~between the slider and the surface of the disc 108 as the head 118 moves toward the OD~~

~~138. This circumstance is primarily due to an increasing large circumference that the~~

~~head 118 must track as it moves toward the OD 138. Hence, operation flow passes from~~

~~the early exit operation 1017 to the first query operation 1008 to guarantee that the~~

~~rotational velocity of the disc 108 increases at a rate sufficient to maintain the air bearing~~

~~as the head 118 moves toward the OD 138.~~ Operation flow then continues to the query

operation 1008 and continues passing between the query operation 1008 and the initial

accelerate operation 1006 until time T_1.

Please replace para. [0078] with the following:

The next accelerate operation 1010 accelerates the disc 108 at a second

acceleration rate different from the initial acceleration rate until the disc 108 reaches a

next rotational velocity (V_N). In accordance with an embodiment of the present invention, the disc 108 reaches the next rotational velocity (V_N) following a second predetermined time period beginning at time T_1, and ending ~~the~~ at time T_N. Operation flow simultaneously passes from the next accelerate operation 1010 to a second query operation 1012 and the velocity query operation 1015. The second query operation 1012 determines whether the disc 108 has been rotating for the second predetermined time period by comparing the current time of disc rotation to time T_N. If the current time does not equal time T_N, operation flow passes back to the next accelerate operation 1010 and rotation of the disc 108 is continued at the second acceleration rate until time T_1.

Please replace para. [0079] with the following:

The velocity query operation 1015 determines whether the rotational velocity of the disc 108 has reached the desired early exit velocity (V_D). If the velocity query operation 1015 determines that the early exit velocity (V_D) has been reached, operation flow passes to the early exit operation 1017. As described above, the early exit operation 1017 moves the read/write head 118 from a landing zone 120 to a data region 304 on the surface of the disc 108 such that the head 118 may access, i.e. write to or read from, tracks 306 on the disc 108. ~~Although the desired early exit velocity (V_D) may preferably be a velocity sufficient to create and maintain an air bearing between the slider of the head 118 and the surface of the disc 108 as the head 118 is in close proximity to the ID 136, the desired early exit velocity (V_D) is typically a velocity insufficient to maintain the air bearing between the slider and the surface of the disc 108 as the head 118 moves toward the OD 138. This circumstance is primarily due to an increasing large~~

circumference that the head 118 must track as it moves toward the OD 138. Hence, operation flow passes from the early exit operation 1017 to the second query operation 1012 to guarantee that the rotational velocity of the disc 108 increases at a rate sufficient to maintain the air bearing as the head 118 moves toward the OD 138. Operation flow then continues to the second query operation 1012 and continues passing between the second query operation 1012 and the next accelerate operation 1010 until time T_N.

Please replace para. [0084] with the following:

The velocity query operation 1015 determines whether the rotational velocity of the disc 108 has reached the desired early exit velocity (V_D). If velocity query operation 1015 determines that the early exit velocity V_D has been reached, operation flow passes to the early exit operation 1017. As described above, the early exit operation 1017 moves the read/write head 118 from a landing zone 120 to a data region 304 on the surface of the disc 108 such that the head 118 may access, i.e. write to or read from, tracks 306 on the disc 108. Although the desired early exit velocity (V_D) may preferably be a velocity sufficient to create and maintain an air bearing between the slider of the head 118 and the surface of the disc 108 as the head 118 is in close proximity to the ID 136, the desired early exit velocity (V_D) is typically a velocity insufficient to maintain the air bearing between the slider and the surface of the disc 108 as the head 118 moves toward the OD 138. This circumstance is primarily due to an increasing large circumference that the head 118 must track as it moves toward the OD 138. Hence, operation flow passes from the early exit operation 1017 to the fourth query operation 1022 to guarantee that the rotational velocity of the disc 108 increases at a rate sufficient to maintain the air bearing

~~as the head 118 moves toward the OD 138.~~ Operation flow then continues to the fourth query operation 1022 and continues passing between the fourth query operation 1022 and the subsequent accelerate operation 1020 until time T_{N+1}.